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FILE 'REGISTRY' ENTERED AT 16:12:27 ON 09 JAN 2008  
E C16F36ALO4

FILE 'HCAPLUS' ENTERED AT 16:14:22 ON 09 JAN 2008

L1 100 S MIHAN S?/AU  
L2 1499884 S CAT# OR CATALY?  
L3 179482 S OLEFIN?  
L4 59 S L1 AND L2 AND L3  
SEL L4 1-59 RN

FILE 'REGISTRY' ENTERED AT 16:15:08 ON 09 JAN 2008

L5 250 S E1-E250  
L6 244 S E251-E494  
L7 14 S (L5 OR L6) AND AL/ELS  
E C4 H F9 O . 1/4 AL/MF  
E 2-PROPANOL, 1,1,1,3,3,3-HEXAFLUORO-2-(TRIFLUOROMETHYL)-  
L8 1 S E3  
L9 47 S 2378-02-1/CRN  
L10 5 S L9 AND AL/ELS  
L11 1 S L10 AND (L5 OR L6)

FILE 'CAOLD' ENTERED AT 16:20:37 ON 09 JAN 2008

L12 0 S L10

FILE 'ZCA' ENTERED AT 16:20:38 ON 09 JAN 2008

L13 14 S L10  
L14 8 S 1840-2003/PY,PRY,AY AND L13

=> FILE ZCA

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=> D L14 1-8 CBIB ABS HITSTR HITRN

L14 ANSWER 1 OF 8 ZCA COPYRIGHT 2008 ACS on STN

143:133823 Ionic cocatalyst system for olefin polymerization. Mihan, Shahram (Basell Polyolefine G.m.b.H., Germany). PCT Int. Appl. WO 2005063829 A1 20050714, 38 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2004-EP14609 20041222. PRIORITY: DE 2003-10361505 20031223; US 2004-548019P 20040225.

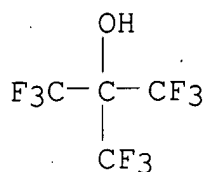
AB The present invention relates to a catalyst system for olefin polymn. comprising an org. transition metal compd. and, as cocatalyst, an ionic compd. made up of anions  $[Al(OR_1)_4]^-$ , Where  $R_1$  are each, independently of one another,  $R_2R_3(CF_3)_2$ ,  $R_2$  is a carbon or silicon atom and  $R_3$  is hydrogen, C1-20-alkyl, C1-20-fluoroalkyl, C6-20-aryl, C6-20-fluoroaryl, C7-40-arylalkyl, C7-40-fluoroarylalkyl, C7-40-alkylaryl, C7-40-fluoroalkylaryl or an  $SiR_4$  group, where  $R_4$  may be identical or different and is each C1-20-alkyl, C1-20-fluoroalkyl, C6-20-aryl, C6-20-fluoroaryl, C7-40-arylalkyl, C7-40-fluoroarylalkyl, C7-40-alkylaryl or C7-40-fluoroalkylaryl, and Lewis-acid cations or Broensted acids as cations. In addn., the invention relates to the process for prepg. such a catalyst system and to a process for the polymn. of olefins in which this catalyst system is used.

IT **220836-20-4**

(cocatalyst; ionic cocatalyst system for olefin polymn.)

RN 220836-20-4 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum lithium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

IT **220836-20-4**

(cocatalyst; ionic cocatalyst system for olefin polymn.)

L14 ANSWER 2 OF 8 ZCA COPYRIGHT 2008 ACS on STN

139:261652 Polymerized cycloolefins using transition metal catalyst and end product optical articles for electronic devices. Rhodes, Larry Funderburk; Bell, Andrew; Ravikiran, R.; Fondran, John C.; Jayaraman, Saikumar; Goodall, Brian Leslie; Mimna, Richard A.; Lipian, John-Henry (Promerus, LLC, USA). U.S. Pat. Appl. Publ. US 2003181607 A1 **20030925**, 90 pp., Cont.-in-part of U.S. Ser. No. 196,525. (English). CODEN: USXXCO. APPLICATION: US 2002-271393 20021015. PRIORITY: US 1998-103120P 19981005; US 1999-412935 19991005; US 2002-196525 20020716.

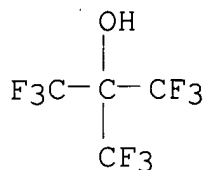
AB The addn. polymn. of cycloolefins uses a cationic Group 10 metal complex and a weakly coordinating anion (WCA),  $[(R')_z M(L')_x (L'')_y] b [WCA]_d$ , where  $[(R')_z M(L')_x (L'')_y]$  is a cation complex where M is a Group 10 transition metal; R' is anionic hydrocarbyl contg. ligand; L' is Group 15 neutral electron donor ligand; L'' is a labile neutral electron donor ligand; x = 1 or 2; y = 0, 1, 2, or 3; z = 0 or 1, where the sum of x, y, and z = 4; [WCA] is counter anion complex; and b and d are nos. representing the no. of times the cation complex and weakly coordinating counter anion complex are taken to balance the electronic charge on the overall catalyst complex.

IT **263880-34-8 263880-36-0**

(weakly coordinating counterion component; transition metal complexes having weakly coordinating counterions for catalysts for polymn. of cycloolefins)

RN 263880-34-8 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum thallium(1+) salt (4:1:1) (CA INDEX NAME)

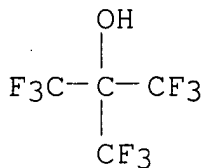


● 1/4 Al

● 1/4 Tl(I)

RN 263880-36-0 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum silver(1+) salt (4:1:1) (CA INDEX NAME)



● 1/4 Ag(I)

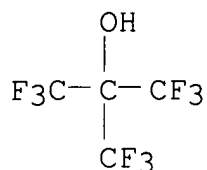
● 1/4 Al

IT 220836-20-4

(weakly coordinating counterion component; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymn. of cycloolefins)

RN 220836-20-4 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum lithium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

IT **263880-34-8 263880-36-0**

(weakly coordinating counterion component; transition metal complexes having weakly coordinating counterions for catalysts for polymn. of cycloolefins)

IT **220836-20-4**

(weakly coordinating counterion component; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymn. of cycloolefins)

L14 ANSWER 3 OF 8 ZCA COPYRIGHT 2008 ACS on STN

136:349702 Superweak complexes of tetrahedral P4 molecules with the silver cation of weakly coordinating anions. Krossing, Ingo; Van Wullen, Leo (Institut für Anorganische Chemie, Universität Karlsruhe, Karlsruhe, 76128, Germany). Chemistry--A European Journal, 8(3), 700-711 (English) **2002**. CODEN: CEUJED. ISSN: 0947-6539. OTHER SOURCES: CASREACT 136:349702. Publisher: Wiley-VCH Verlag GmbH.

AB The silver aluminates  $\text{AgAl}[\text{OC}(\text{CF}_3)_2(\text{R})]_4$  ( $\text{R} = \text{H}, \text{CH}_3, \text{CF}_3$ ) react with solns. of white phosphorus P4 to give complexes that bind one or two almost undistorted tetrahedral P4 mols. in an  $\eta^2$  fashion:  $[\text{Ag}(\text{P}_4)_2] + [\text{Al}(\text{OC}(\text{CF}_3)_3)_4]^-$  (1) contg. the 1st homoleptic metal-phosphorus cation, the mol. species  $(\text{P}_4)\text{AgAl}[\text{OCMe}(\text{CF}_3)_2]_4$  (2), and the dimeric  $\text{Ag}(\mu, \eta^2\text{-P}_4)\text{Ag}$  bridged  $\{(\text{P}_4)\text{AgAl}[\text{OC}(\text{H})(\text{CF}_3)_2]_4\}_2$  (3). Compds. 1-3 were characterized by variable-temp. (VT) 31P NMR spectroscopy (1 also by VT 31P MAS NMR spectroscopy), Raman spectroscopy, and single-crystal x-ray crystallog. Other Ag:P4 ratios did not lead to new species, and this observation was rationalized on thermodyn. grounds. The  $\text{Ag}(\text{P}_4)_2^+$  ion has an almost planar coordination environment around the Ag+ ion due to  $\text{dx}^2\text{-y}^2(\text{Ag}) \rightarrow \sigma^*(\text{P-P})$  backbonding. Calcns. (HF-DFT) on six  $\text{Ag}(\text{P}_4)_2^+$  isomers showed that the planar

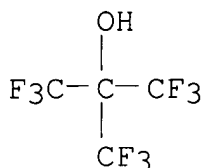
$\eta^2$  form is only slightly favored by 5.2 kJ mol<sup>-1</sup> over the tetrahedral  $\eta^2$  species;  $\eta^1$ -P<sub>4</sub> and  $\eta^3$ -P<sub>4</sub> complexes are less favorable (27-76 kJ mol<sup>-1</sup>). The bonding of the P<sub>4</sub> moiety in [RhCl( $\eta^2$ -P<sub>4</sub>)(PPh<sub>3</sub>)<sub>2</sub>], the only compd. in which an  $\eta^2$  bonding mode of a tetrahedral P<sub>4</sub> mol. was claimed, must be regarded as a tetraphosphabicyclobutane, and not as a tetrahedro-P<sub>4</sub> complex, from the published NMR and vibrational spectra, the calcd. geometry of [RhCl(P<sub>4</sub>)(PH<sub>3</sub>)<sub>2</sub>] (10), the highly endothermic (385 kJ mol<sup>-1</sup>) calcd. dissocn. enthalpy of 10 into P<sub>4</sub> and RhCl(PH<sub>3</sub>)<sub>2</sub> (11), as well as atoms in mols. (AIM) and natural bond orbital (NBO) population analyses of 10 and the Ag(P<sub>4</sub>)<sub>2</sub><sup>+</sup> ion. Therefore, 1-3 are the 1st examples of species contg.  $\eta^2$ -coordinated tetrahedral P<sub>4</sub> mols.

IT **263880-36-0**

(reactant; prepn. of silver cationic complexes of  $\eta^2$ -coordinated tetrahedral phosphorus mols. with weakly coordinating aluminate anions)

RN 263880-36-0 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum silver(1+) salt (4:1:1) (CA INDEX NAME)



● 1/4 Ag(I)

● 1/4 Al

IT **263880-36-0**

(reactant; prepn. of silver cationic complexes of  $\eta^2$ -coordinated tetrahedral phosphorus mols. with weakly coordinating aluminate anions)

L14 ANSWER 4 OF 8 ZCA COPYRIGHT 2008 ACS on STN

136:144236 New reagents to introduce weakly coordinating anions of type Al(ORF)<sub>4</sub><sup>-</sup>: synthesis, structure and characterization of Cs and trityl salts. Krossing, Ingo; Brands, Helge; Feuerhake, Robert; Koenig, Sven (Institut für Anorganische Chemie, University of Karlsruhe, Karlsruhe, 76128, Germany). Journal of Fluorine Chemistry, 112(1), 83-90 (English) **2001**. CODEN: JFLCAR.

ISSN: 0022-1139. OTHER SOURCES: CASREACT 136:144236. Publisher: Elsevier Science S.A..

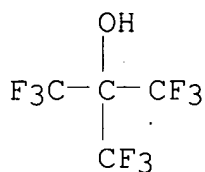
AB The facile synthesis of five reagents ( $\text{Cs}^+$  and  $\text{Ph}_3\text{C}^+$  salts) to introduce weakly coordinating anions (WCAs)  $\text{Al}(\text{ORF})_4^-$  ( $\text{ORF}$ :  $\text{OC}(\text{H})(\text{CF}_3)_2$ ;  $\text{OC}(\text{CF}_3)_3$ ) or lithium bridged  $\{(\text{RFO})_2\text{Al}(\mu\text{-ORF})_2(\mu\text{-Li})(\mu\text{-ORF})_2\text{Al}(\text{ORF})_2\}^-$  ( $\text{Ph}_3\text{C}^+$  salt,  $\text{ORF}$ :  $\text{OC}(\text{H})(\text{CF}_3)_2$ ) is presented. All of the species were characterized spectroscopically; three  $\{\text{Cs}[\text{Al}(\text{OC}(\text{H})(\text{CF}_3)_2)_4] \text{ (1)}; \text{Cs}[\text{Al}(\text{OC}(\text{CF}_3)_3)_4] \text{ (2)}; [\text{Ph}_3\text{C}]\{\text{Li}[\text{Al}(\text{OC}(\text{H})(\text{CF}_3)_2)_4\}_2\} \text{ (4)}\}$  also by a x-ray single crystal structure detn. In contrast to the known  $\text{Ag}^+$  salts, the solid  $\text{Cs}^+$  salts 1-2 crystallize unsolvated which makes them suitable starting materials to introduce them as counterions for highly electrophilic and oxidizing cations (i.e. by metathesis with  $\text{MF}_6^-$  salts ( $\text{M}$ : As, Sb);  $\text{CsMF}_6$  is insol. in  $\text{SO}_2$ ,  $\text{CH}_2\text{Cl}_2$ , etc.). The anions of 1-2 have thermochem. vols. of 599 A3 (1) and 758 A3 (2) with estd. low lattice potential energies of only 379(1) and 358(2) kJ/mol (cf. 759 kJ/mol for  $\text{CsF}$ ). The trityl salts  $[\text{Ph}_3\text{C}][\text{Al}(\text{ORF})_4]^-$  ( $\text{RF}$ :  $\text{OC}(\text{H})(\text{CF}_3)_2$  (3);  $\text{OC}(\text{CF}_3)_3$  (5)) and  $[\text{Ph}_3\text{C}]\{\text{Li}[\text{Al}(\text{OC}(\text{H})(\text{CF}_3)_2)_4\}_2\}^-$  (4) are extremely robust and sealed NMR samples of 3-5 show no sign of decompn. even after storage at  $+70^\circ$  for 3 mo. The basicity of the anions decreases according to  $\text{Al}(\text{OC}(\text{H})(\text{CF}_3)_2)_4^- > \text{Li}[\text{Al}(\text{OC}(\text{H})(\text{CF}_3)_2)_4]_2^- > \text{Al}(\text{OC}(\text{CF}_3)_3)_4^-$ .

IT **392292-71-6P**

(prepn. and crystal and mol. structure and lattice potential energy)

RN 392292-71-6 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum cesium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Cs

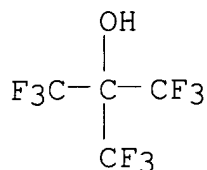
IT **220836-20-4**

(reactant; prepn. of cesium and trityl lithium salts of aluminum fluorinated alkoxy complexes as reagents to introduce weakly

coordinating anions of type  $\text{Al}(\text{ORF})_4^-$

RN 220836-20-4 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum lithium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

IT **392292-71-6P**

(prepn. and crystal and mol. structure and lattice potential energy)

IT **220836-20-4**

(reactant; prepn. of cesium and trityl lithium salts of aluminum fluorinated alkoxy complexes as reagents to introduce weakly coordinating anions of type  $\text{Al}(\text{ORF})_4^-$ )

L14 ANSWER 5 OF 8 ZCA COPYRIGHT 2008 ACS on STN

134:289439 The facile preparation of weakly coordinating anions: structure and characterisation of silver polyfluoroalkoxyaluminates  $\text{AgAl}(\text{ORF})_4$ , calculation of the alkoxide ion affinity. Krossing, Ingo (University of Karlsruhe, Karlsruhe, 76128, Germany). Chemistry--A European Journal, 7(2), 490-502 (English) **2001**. CODEN: CEUJED. ISSN: 0947-6539. OTHER SOURCES: CASREACT 134:289439. Publisher: Wiley-VCH Verlag GmbH.

AB Purified  $\text{LiAlH}_4$  reacts with fluorinated alcs. HORF to give  $\text{LiAl}(\text{ORF})_4$  (RF =  $-\text{CH}(\text{CF}_3)_2$ , 2a;  $-\text{CMe}(\text{CF}_3)_2$ , 2b;  $-\text{C}(\text{CF}_3)_3$ , 2c) in 77-90% yield. The crude Li aluminates  $\text{LiAl}(\text{ORF})_4$  react metathetically with  $\text{AgF}$  to give the silver aluminates  $\text{AgAl}(\text{ORF})_4$  (RF =  $-\text{CH}(\text{CF}_3)_2$ , 3a;  $-\text{CMe}(\text{CF}_3)_2$ , 3b;  $-\text{C}(\text{CF}_3)_3$ , 3c) in almost quant. yield. The solid-state structures of solvated 3a-c showed that the Ag cation is only weakly coordinated (CN(Ag) = 6-10; CN = coordination no.) by the solvent and/or weak cation-anion contacts Ag-X (X = O, F, Cl, C). The strength of the Ag-X contacts of 3a-c was analyzed by Brown's bond-valence method and then compared with other Ag salts of weakly coordinating anions (WCAs), for example



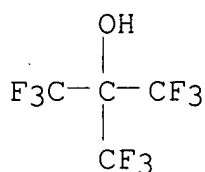
[CB11H6Cl6]<sup>-</sup> and [M(OTeF<sub>5</sub>)<sub>n</sub>]<sup>-</sup> (M = B, Sb, n = 4, 6). Based on this quant. picture the Al{OC(CF<sub>3</sub>)<sub>3</sub>}<sub>4</sub><sup>-</sup> anion is one of the most weakly coordinating anions known. Also, the AgAl(ORF)<sub>4</sub> species are certainly the easiest WCAs to access preparatively (20 g in two days), addnl. at low cost. The Al-O bond length of Al(ORF)<sub>4</sub><sup>-</sup> is shortest in the sterically congested Al{OC(CF<sub>3</sub>)<sub>3</sub>}<sub>4</sub><sup>-</sup> anion-which is stable in H<sub>2</sub>O and aq. HNO<sub>3</sub> (35%), and indicates a strong and highly polar Al-O bond that is resistant towards heterolytic alkoxide ion abstraction. This observation was supported by HF-DFT calcns. of OR<sup>-</sup>, Al(OR)<sub>3</sub> and Al(OR)<sub>4</sub><sup>-</sup> at the MPW1PW91 and B3LYP levels (R = CH<sub>3</sub>, CF<sub>3</sub>, C(CF<sub>3</sub>)<sub>3</sub>). The alkoxide ion affinity (AIA) is highest for R = CF<sub>3</sub> (AIA = 384 ± 9 kJ mol<sup>-1</sup>) and R = C(CF<sub>3</sub>)<sub>3</sub> (AIA = 390 ± 3 kJ mol<sup>-1</sup>), but lowest for R = CH<sub>3</sub> (AIA = 363 ± 7 kJ mol<sup>-1</sup>). The gaseous Al(ORF)<sub>4</sub><sup>-</sup> anions are stable against the action of the strong Lewis acid AlF<sub>3</sub>(g) by 88.5 ± 2.5 (RF = CF<sub>3</sub>) and 63 ± 12 kJ mol<sup>-1</sup> (RF = C(CF<sub>3</sub>)<sub>3</sub>), while Al(OCH<sub>3</sub>)<sub>4</sub><sup>-</sup> decomp. with -91 ± 2 kJ mol<sup>-1</sup>. Therefore, the presented fluorinated aluminates Al(ORF)<sub>4</sub><sup>-</sup> appear to be ideal candidates when large and resistant WCAs are needed, for example, in cationic homogeneous catalysis, for highly electrophilic cations or for weak cationic Lewis acid/base complexes.

IT **332396-60-8**

(calcd. mol. structure, total energy, and alkoxide affinity of)

RN 332396-60-8 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum salt (3:1) (CA INDEX NAME)



● 1/3 Al

IT **332396-60-8**

(calcd. mol. structure, total energy, and alkoxide affinity of)

L14 ANSWER 6 OF 8 ZCA COPYRIGHT 2008 ACS on STN

134:257376 Relative Lewis basicities of six Al(ORF)<sub>4</sub><sup>-</sup> superweak anions and the structures of LiAl{OCH(CF<sub>3</sub>)<sub>2</sub>}<sub>4</sub> and [1-Et-3-Me-1,3-C<sub>3</sub>H<sub>3</sub>N<sub>2</sub>][Li{Al{OCH(CF<sub>3</sub>)<sub>2</sub>}<sub>4</sub>}<sub>2</sub>]. Ivanova, Svetlana M.; Nolan, Benjamin G.; Kobayashi, Yoshihiro; Miller, Susie M.; Anderson, Oren P.; Strauss, Steven H. (Department of Chemistry, Colorado State University, Ft. Collins, CO, 80523, USA). Chemistry--A European

Journal, 7(2), 503-510 (English) **2001**. CODEN: CEUJED.  
ISSN: 0947-6539. Publisher: Wiley-VCH Verlag GmbH.

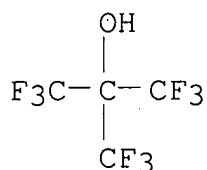
AB The relative Lewis basicities of six  $\text{Al}(\text{ORF})_4^-$  ions,  $\text{Al}\{\text{OC}(\text{CH}_3)(\text{CF}_3)_2\}_4^-$ ,  $\text{Al}\{\text{OC}(\text{CF}_3)_3\}_4^-$ ,  $\text{Al}\{\text{OCPh}(\text{CF}_3)_2\}_4^-$ ,  $\text{Al}\{\text{OC}\{4\text{-C}_6\text{H}_4(\text{t-Bu})\}(\text{CF}_3)_2\}_4^-$ ,  $\text{Al}\{\text{OC}(\text{Cy})(\text{CF}_3)_2\}_4^-$ , and  $\text{Al}\{\text{OCPh}_2(\text{CF}_3)\}_4^-$ , have been detd. by measuring their relative coordinating abilities towards  $\text{Li}^+$  in dichloromethane. The relative  $\text{Li}^-$  Lewis basicities of the  $\text{Al}(\text{ORF})_4^-$  ions are linearly related to the aq.  $\text{pK}_a$  values of the corresponding parent HORF fluoroalcs. The Lewis basicity of  $\text{Al}\{\text{OCH}(\text{CF}_3)_2\}_4^-$  could not be measured because two of these anions can coordinate to one  $\text{Li}^+$  cation. The structures of  $\text{LiAl}\{\text{OCH}(\text{CF}_3)_2\}_4$  and  $[\text{1-Et-3-Me-1,3-C}_3\text{H}_3\text{N}_2][\text{Li}\{\text{Al}\{\text{OCH}(\text{CF}_3)_2\}_4\}_2]$  were detd.

IT **220836-20-4**

(relative Lewis basicities of  $\text{Al}(\text{ORF})_4^-$  superweak anions by their coordination with  $\text{Li}(1+)$  in dichloromethane)

RN 220836-20-4 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum lithium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

IT **220836-20-4**

(relative Lewis basicities of  $\text{Al}(\text{ORF})_4^-$  superweak anions by their coordination with  $\text{Li}(1+)$  in dichloromethane)

L14 ANSWER 7 OF 8 ZCA COPYRIGHT 2008 ACS on STN

132:279654 Catalyst and methods for polymerizing cycloolefins. Lipian, John-Henry; Rhodes, Larry F.; Goodall, Brian L.; Bell, Andrew; Mimna, Richard A.; Fondran, John C.; Hennis, April D.; Elia, Christine N.; Polley, Jennifer D.; Sen, Ayusman; Saikumar, Jayaraman (B.F. Goodrich Company, USA; Penn State Research Foundation). PCT Int. Appl. WO 2000020472 A1 **20000413**, 291 pp. DESIGNATED STATES: W: AE, AL, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CZ, EE, GE,

HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.

(English). CODEN: PIXXD2. APPLICATION: WO 1999-US23243 19991005. PRIORITY: US 1998-103120 19981005; US 1998-111590 19981209.

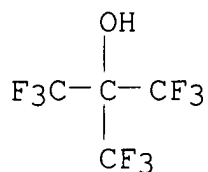
AB Methods for the addn. polymn. of cycloolefins involve using a cationic Group 10 metal complex of a weakly coordinating anion of the formula:  $[(R')_z M(L')_x (L'')_y] b [WCA] d$ , wherein  $[(R')_z M(L')_x (L'')_y]$  is the cation complex where M represents a Group 10 transition metal; R' represents an anionic hydrocarbyl contg. ligand; L' represents a Group 15 neutral electron donor ligand; L'' represents a labile neutral electron donor ligand; x is 1 or 2; and y is 0, 1, 2, or 3; and z is 0 or 1, wherein the sum of x, y, and z is 4; and [WCA] represents a weakly coordinating counter anion (such as pentafluorophenylborate); and b and d are nos. representing the no. of times the cation complex and weakly coordinating counter anion complex are taken to balance the electronic charge on the overall catalyst complex. A typical polymer was manufd. by dilg. a mixt. of 10  $\mu$ L PhMe soln. of (allyl)palladium chloride dimer (6.23 mmol) and 10  $\mu$ L PhMe soln. of tricyclohexylphosphine with PhMe to 1 mL total, adding the resulting soln. to a PhMe soln. contg. butylnorbornene 56.1, 5-triethoxysilylnorbornene 6.21, and Li tetrakis(pentafluorophenyl)borate 0.0006 mmol, and heating 4 h at 65°.

IT **263880-34-8 263880-36-0**

(weakly coordinating counterion component; transition metal complexes having weakly coordinating counterions for catalysts for polymn. of cycloolefins)

RN 263880-34-8 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum thallium(1+) salt (4:1:1) (CA INDEX NAME)

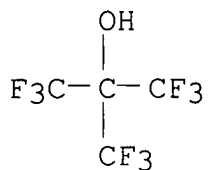


● 1/4 Al

● 1/4 Tl(I)

RN 263880-36-0 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum silver(1+) salt (4:1:1) (CA INDEX NAME)



● 1/4 Ag(I)

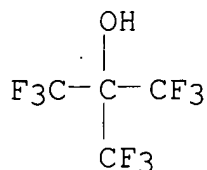
● 1/4 Al

IT **220836-20-4**

(weakly coordinating counterion component; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymn. of cycloolefins)

RN 220836-20-4 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum lithium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

IT **263880-34-8 263880-36-0**

(weakly coordinating counterion component; transition metal complexes having weakly coordinating counterions for catalysts for polymn. of cycloolefins)

IT **220836-20-4**

(weakly coordinating counterion component; transition metal complexes stabilized by weakly coordinating counterions for catalysts for polymn. of cycloolefins)

L14 ANSWER 8 OF 8 ZCA COPYRIGHT 2008 ACS on STN

130:204268 Preparation of weakly coordinating anions containing polyfluoroalkoxide ligands for use as salt-in-polymer electrolytes. Strauss, Steven H.; Nolan, Benjamin G.; Barbarich, Thomas J.; Rockwell, Juston J. (Colorado State University Research Foundation, USA). PCT Int. Appl. WO 9912938 A1 **19990318**, 47 pp.

DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-US19268 19980911. PRIORITY: US 1997-58524 19970911.

AB A compd. comprising a polyfluorinated anion of the formula:  $[\text{M}_1(\text{XC}(\text{CFa}(\text{R}_1)_b)(\text{CFc}(\text{R}_2)_d)\text{R}_3)_m(\text{R}_4)_n]^-p$  ( $\text{M}_1$  = transition metal or Group III, IV or V element;  $p = 1$  or  $2$ ;  $X = \text{O}, \text{S}, \text{NR}_5\text{R}_6$ ;  $\text{R}_1$  and  $\text{R}_2$  are independently H, C1-C4 alkyl, C4-C20 aryl;  $\text{R}_4$  is independently C1-C10 alkyl, C1-C10 alkoxide or C4-C20 aryloxide;  $\text{R}_5$  and  $\text{R}_6$  are independently H or C1-C10 alkyl; each of  $a$  and  $c$  are independently an integer from 0-3;  $a + b = 3$ ;  $c + d = 3$ ;  $m$  is an integer from 2-8;

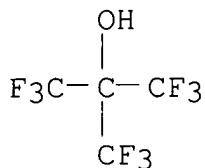
n is an integer from 0-4; at least one of a or c is not 0) and the use thereof, esp. as electrolytes for batteries, is provided. Specifically, the present invention provides a compd. comprising an anion which comprises a polyfluorinated alkoxide coordinated to a transition metal, or a Group III, IV or V element. Thus,  $\text{LiNb}(\text{HFIP})_6$  (HFIP = 1,1,1,3,3,3-hexafluoro-2-propanol anion) was prepd. in 79% yield from  $\text{Li}(\text{HFIP})$  and reacted with amorphous polyethylene oxide (aPEO) to give a salt-in-polymer electrolyte for which glass transition temps. were detd. and elec. cond. measurements were made.

IT **220836-20-4P**

(prepn. and use in prepn. of salt-in-polymer electrolytes)

RN 220836-20-4 ZCA

CN 2-Propanol, 1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-, aluminum lithium salt (4:1:1) (CA INDEX NAME)



● 1/4 Al

● 1/4 Li

IT **220836-20-4P**

(prepn. and use in prepn. of salt-in-polymer electrolytes)